

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
7 June 2001 (07.06.2001)

PCT

(10) International Publication Number  
WO 01/41477 A1

(51) International Patent Classification<sup>7</sup>: H04Q 7/24, 7/38

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(21) International Application Number: PCT/KR00/01390

(22) International Filing Date: 1 December 2000 (01.12.2000)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:  
1999-0054857 3 December 1999 (03.12.1999) KR

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,  
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS,  
LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO,  
NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,  
TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): European patent (AT, BE,  
CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,  
NL, PT, SE, TR).

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**Published:**

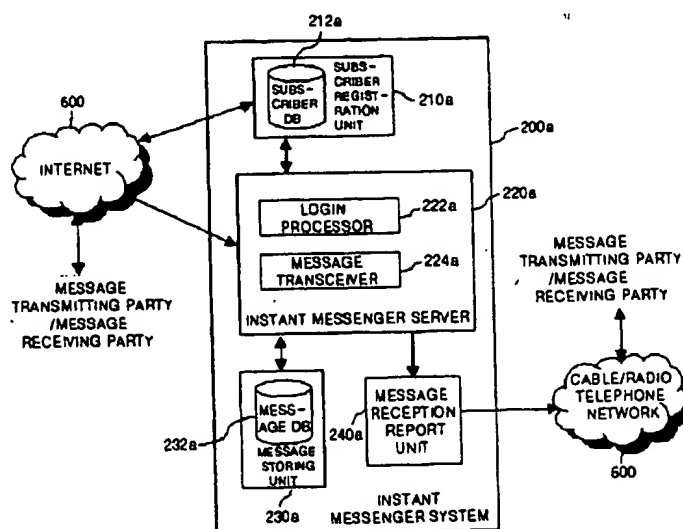
- With international search report.
- Before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments.

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For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: INSTANT MESSENGER SYSTEM AND INSTANT MESSAGE TRANSFER METHOD USING PHONE NUMBER  
AS INSTANT MESSENGER ADDRESS



(57) Abstract: An instant messenger system and a method for transmitting an instant message can use cable and radio telephone numbers as instant messenger addresses to access to an instant messenger service without any registration procedure. The instant messenger system includes: a message storing unit for in advance setting instant messenger accounts having a phone number of each user as an instant messenger address and storing a message received for each instant messenger account; an instant messenger server for receiving the message from a message transmitting party in login state and transmitting the message to a message receiving party in login state; and a message reception report unit for reporting message reception to a message receiving party who is not in login state.

**INSTANT MESSENGER SYSTEM AND INSTANT MESSAGE TRANSFER  
METHOD USING PHONE NUMBER AS INSTANT MESSENGER ADDRESS**

TECHNICAL FIELD

5           The present invention relates to an instant messenger system and a method for transmitting an instant message, and more particularly, to an instant messenger system and a method for transmitting an instant message in which cable and radio telephone numbers are used as instant messenger  
10 addresses for a user to access to an instant messenger service without any registration procedure.

BACKGROUND ART

          An instant messenger service can permit users on on-  
15 line to instantly exchange messages with one another, and is to supplement a drawback of an electronic mail (E-mail) service that requires much time in transmitting and confirming messages. Even in case where a transmitting party and a receiving party of E-mail are provided with E-  
20 mail accounts from different service providers, they can mutually exchange messages. However, in the instant messenger service, a message transmitting party and a message receiving party should be registered with an instant messenger service provided by the same service

provider.

In the instant messenger service, instant messenger addresses of a transmitting party and a receiving party are not determined by a predetermined rule but arbitrarily  
5 determined by a user when an instant messenger account is issued to the user. Each user's instant messenger address should be unique in a specific instant messenger service. Accordingly, if a user's desired address has been already assigned to another user in the specific instant messenger  
10 service, the user should choose another address. For this reason, it is difficult for the message transmitting party to exactly know an instant messenger address of a message receiving party.

Furthermore, a user can use such an instant messenger  
15 service only when he/she accesses a web page of a corresponding service provider, registers himself/herself as a member, and is issued with an instant messenger account. In this case, it is difficult for an instant messenger service provider to secure a large number of  
20 subscribers, and it is inconvenient for a user to go through the registration procedure.

Under the circumstances, an instant messenger system that allows users to be issued with instant messenger accounts without any registration procedure will be

convenient for both the users and an instant messenger service provider. Also, an instant messenger system that can transmit a message to an unregistered user will be useful.

5           Meanwhile, cellular phones have been spread as much widely as the Internet. Currently, many people have a cellular phone, and it is expected that almost all adults can have a cellular phone in the near future in accordance with the development of personal communication service  
10   technology. However, according to conventional technology, the message transmitting party cannot transmit an instant message to the message receiving party when the one cannot know the other's instant messenger address even if the one knows the other's cellular phone number. Accordingly, an  
15   instant messenger system that can know an instant messenger address of a message receiving party if a message transmitting party knows a cellular phone number of the message receiving party will be very useful.

20   DISCLOSURE OF THE INVENTION

          Accordingly, the present invention is directed to an instant messenger system and a method for transmitting an instant message that substantially obviate one or more of the problems due to limitations and disadvantages of the

related art.

An object of the present invention is to provide an instant messenger system and a method for transmitting an instant message in which a message transmitting party can  
5 transmit an instant message to a message receiving party if the one knows the other's phone number, regardless of the fact whether the message receiving party has been registered with the instant messenger system, and a phone number used for confirming the reception of an instant  
10 message when the instant message is received in a corresponding account is also used as an instant messenger address.

Additional features and advantages of the invention will be set forth in the description which follows, and in  
15 part will be apparent from the description, or may be learned by practice of the invention. The objectives and other advantages of the invention will be realized and attained by the structure particularly pointed out in the written description and claims thereof as well as the  
20 appended drawings.

To achieve these and other advantages and in accordance with the purpose of the present invention, as embodied and broadly described, an instant messenger system using a phone number as an instant messenger address

includes: a message storing unit for in advance setting instant messenger accounts having a phone number of each user as an instant messenger address for latent instant messenger service users and storing a message received for each instant messenger account; an instant messenger server for receiving the message from a message transmitting party in login state to store the received message in the message storing unit and transmitting the message stored in the message storing unit to a message receiving party in login state; and a message reception report unit for reporting message reception to a message receiving party who is not in login state, through a phone number of the message receiving party.

To further achieve these and other advantages and in accordance with the purpose of the present invention, an instant messenger system using a phone number as an instant messenger address includes: a message storing unit for storing a message received for each instant messenger account; an instant messenger server for receiving the message from a message transmitting party in login state, dynamically generating an instant messenger account corresponding to a phone number of a message receiving party to store the received message in the message storing unit, and transmitting the message stored in the message

storing unit to a message receiving party in login state;  
and a message reception report unit for reporting message  
reception to a message receiving party who is not in login  
state, through the phone number of the message receiving  
5 party.

To further achieve these and other advantages and in  
accordance with the purpose of the present invention, a  
method for transmitting an instant message using a phone  
number as an instant messenger address, includes the steps  
10 of: (a) generating instant messenger accounts having a  
phone number of each user as an instant messenger address  
for latent instant messenger service users; (b) receiving  
login data including a phone number and a password from a  
message transmitting party to process logging in, and  
15 receiving a message from the message transmitting party;  
(c) generating a password at random for a message receiving  
party who is not registered with an instant messenger  
system, and reporting the password together with message  
reception to the message receiving party through a phone  
20 number of the message receiving party included in the  
received message; and (d) receiving the login data  
including the phone number and the password, from the  
message receiving party to process logging in, and  
transmitting the received message to the message receiving

party.

To further achieve these and other advantages and in accordance with the purpose of the present invention, a method for transmitting an instant message using a phone number as an instant messenger address, includes the steps of: (a) receiving login data including a phone number and a password from a message transmitting party to process login, and receiving a message from the message transmitting party; (b) dynamically generating an instant messenger account using a phone number of a message receiving party included in the received message as an instant messenger address; (c) generating a password at random for a message receiving party who is not registered with an instant messenger system, and reporting the password together with message reception to the message receiving party through the phone number of the message receiving party included in the received message; and (d) receiving the login data including the phone number and the password from the message receiving party to process logging in, and transmitting the received message to the message receiving party.

It is to be understood that both the foregoing general description and the following detailed description are exemplary and explanatory and are intended to provide



further explanation of the invention as claimed.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are included to  
5 provide a further understanding of the invention and are  
incorporated in and constitute a part of this specification,  
illustrate embodiments of the invention and together with  
the description serve to explain the principles of the  
invention.

10 In the drawings:

Fig. 1 is a schematic diagram illustrating an  
environment in which an instant messenger system according  
to the present invention is connected with Internet and  
telephone network;

15 Fig. 2 is a block diagram showing a configuration of  
an instant messenger system according to the first  
embodiment of the present invention;

Fig. 3 is a conceptual diagram illustrating a  
procedure in which a user accesses to and logs in an  
20 instant messenger system according to the present  
invention;

Figs. 4A and 4B exemplarily show screens on which a  
user accesses to and logs in an instant messenger system  
according to the present invention;

Fig. 5 is a flow chart showing a message reception procedure in an instant messenger system according to the present invention; and

Fig. 6 is a block diagram showing a configuration of an instant messenger system according to the second embodiment of the present invention.

#### BEST MODE FOR CARRYING OUT THE INVENTION

Reference will now be made in detail to the preferred embodiments of the present invention, examples of which are illustrated in the accompanying drawings.

Referring to Fig. 1, reference numeral 100 represents a user terminal, and reference numeral 200 represents an instant messenger system of the present invention. Reference numeral 300 represents a cellular phone, and reference numeral 400 represents a base station. Also, reference numeral 500 represents Internet, and reference numeral 600 conceptually represents a telephone network including a mobile telephone network and a cable telephone network.

The Internet 500 means a worldwide computer communication network which uses transmission control protocol/internet protocol (TCP/IP). In a broad sense, the Internet 500 includes cable and radio communication

networks linked with the Internet to access to the user terminal 100.

The user terminal 100 is provided with a web browser (not shown) which is a software used for reading hypertext markup language (HTML) documents that are standard documents of a web, and communicating with a web server using a hypertext transfer protocol (HTTP). Also, the user terminal 100 downloads an instant messenger program (not shown) from the instant messenger system 200, and puts the instant messenger program linked with the instant messenger system 200 into execution. However, the user terminal 100 of the present invention is not limited to the above functions. In the present invention, the user terminal 100 can be provided a web browser (not shown) for reading a wireless markup language (WML) document and supporting wireless application protocol (WAP). Examples of the user terminal 100 include a personal digital assistant (PDA) and a cellular phone.

As shown in Fig. 1, the instant messenger system 200 of the present invention can transmit data to the cellular phone 300 through a mobile telephone network after passing through a cable telephone network. Alternatively, the instant messenger system 200 can be connected to the cellular phone 300 through a mobile telephone network.

An instant messenger system using a cellular phone number as an instant messenger address in accordance with the first embodiment of the present invention will now be described with reference to Fig. 2. Referring to Fig. 2, 5 an instant messenger system 200a of the present invention includes a subscriber registration unit 210a, an instant messenger server 220a, a message storing unit 230a, and a message reception report unit 240a. In the first embodiment of the present invention, for convenience of description, 10 it is supposed that a cellular phone number is used as an instant messenger address. However, a phone number used in the present invention is not limited to a cellular phone number. That is, cable/radio phone numbers assigned to a user can be used as a phone number. Also, in the first 15 embodiment of the present invention, it is supposed that accounts for cellular phone users who are latent users of the instant messenger system 200a have been already generated.

The subscriber registration unit 210a receives 20 subscriber registration data, such as a user name, an address, a cellular phone number, and a password, from a user accessed to the instant messenger system 200a through the Internet. Then, the subscriber registration unit 210a stores the received subscriber registration data in a

subscriber data base (DB) 212a to complete a registration procedure. The subscriber registration data of latent cellular phone users are stored in the subscriber DB 212a. In this case, an area where corresponding subscriber registration data of cellular phone users who are not  
5 registered with the instant messenger system will be stored, remains empty in the subscriber DB 212a.

The instant messenger server 220a receives a message from a message transmitting party in login state and stores  
10 it in the message storing unit 230a. Then, the instant messenger server 220a transmits the message stored in the message storing unit 230a to a message receiving party in login state. The instant messenger server 220a includes a login processor 222a and a message transceiver 224a.

15 The login processor 222a receives a cellular phone number and a password from a user accessed to the instant messenger system through the Internet to process logging in. At this instance, if the user does not know the password, the login processor 222a transmits the password generated  
20 at random to the user using the cellular phone number input by the user and authenticates the user by receiving the phone number and the transmitted password. If authentication of the user is completed, the login processor 222a downloads an instant messenger program to

the user terminal 100. The instant messenger program is executed by the user terminal 100 and provides the user with a user interface that can input a message. The instant messenger program transmits the input message to the  
5 instant messenger system 200a under the login state and receives the message for the message receiving party from the instant messenger system 200a to output the message to the user.

The message transceiver 224a is linked with the  
10 instant messenger program downloaded to the user terminal 100 and receives the message input by the user from the message transmitting party in login state. Also, the message transceiver 224a transmits the received message to the user terminal 100 of the message receiving party if the  
15 message receiving party is in login state.

For latent instant messenger service users, the message storing unit 230a in advance sets instant messenger accounts having a cellular phone number of each user as an instant messenger address. In other words, an instant  
20 messenger account such as <cellular phone number> is generated for each cellular phone user. For example, if a cellular phone number of an arbitrary user is 011-123-4567, an instant messenger account of this user is "0111234567".

Meanwhile, the instant messenger server 220a of the

present invention is preferably implemented to correctly recognize a corresponding instant messenger address even if the user inputs the instant messenger address including "-", such as "011-123-4567" and "011-1234567", without inputting  
5 numerals only. The message received for each instant messenger account is stored in the message DB 232a of the message storing unit 230a.

The message reception report unit 240a reports message reception to a message receiving party who is not  
10 in login state. That is to say, the message reception report unit 240a extracts a cellular phone number of the message receiving party included in the received message as an instant messenger address and reports message reception to the message receiving party through the cable/radio  
15 telephone network 600 using the extracted cellular phone number. To report message reception, the message reception report unit 240a may include a general cable phone interface, or a cellular phone interface directly connected to a cellular phone network. Alternatively, the message  
20 reception report unit 240a may be configured such that a message is not transmitted to the cellular phone through the cable/radio telephone network 600, but transmitted to the cellular phone 300 through the Internet 500, a gateway (not shown) to a cellular phone network and the cellular

phone network. The message reception report unit 240a randomly generates a password to authenticate the unregistered message receiving party who is in login state. The generated password is transmitted to the cellular phone  
5 300 corresponding to the receiving party's cellular phone number extracted from the received message, together with a short message.

Meanwhile, in the embodiment in which the instant messenger address included in the message includes the  
10 cable phone number of the message receiving party not the cellular phone number of the message receiving party, the message reception report unit 240a generates a password and synthesizes the generated password and a message indicative of message reception to generate audio data. Then, the  
15 message reception report unit 240a transmits the audio data to a terminal unit (not shown) corresponding to the cable phone number of the message receiving party through the cable/radio telephone network 600.

A procedure of transmitting a message using the  
20 instant messenger system 200a of Fig. 2 will now be described in detail with reference to Fig. 3.

In the instant messenger system 200a of Fig. 2, even in case where a user is not registered with the instant messenger system, a user account is already issued but a



password is not registered. In this case, anyone may log in the instant messenger system 200 to transmit a message in the name of another person. Accordingly, if a user who is not registered with the instant messenger system 200a  
5 desires to transmit a message using the instant messenger system 200a, the user is subject to user authentication procedures as follows.

First, the user accesses to a home page of the instant messenger system 200a through the Internet 500  
10 using his/her own terminal 100 in step S110. Then, the instant messenger system 200a sends a login screen to the user terminal 100 in step S120.

Fig. 4A exemplarily shows a login screen of the instant messenger system 200a. In case of a user registered  
15 with the instant messenger system 200a, the user can log in the instant messenger system 200a by inputting his/her cellular phone number and password.

While in case of a user who is not registered with the instant messenger system 200a, the user can input  
20 his/her cellular phone number but cannot input a password because the password has not been determined. Accordingly, in this case, the user inputs his/her cellular phone number only and then clicks a confirmation button in step S130. Alternatively, a "NEW REGISTRATION" button may be provided

in the login screen. Thus, the user presses the "NEW REGISTRATION" button, so that the instant messenger system 200a can transmit a screen to instruct input of the cellular phone number to the user terminal 100.

5        If the unregistered user inputs his/her cellular phone number, the instant messenger system 200a sends a screen exemplarily shown in Fig. 4B to the user terminal 100 and randomly generates a password to transmit the password to a corresponding cellular phone in a short  
10 message in step S150.

      Since an authentic cellular phone user can confirm the password generated by the instant messenger system 200a through his/her cellular phone 300, the user can formally log in the instant messenger system 200a. However, if  
15 anyone who is not the authentic cellular phone user accesses to the instant messenger system 200a and inputs another person's cellular phone number, the person cannot know a password transmitted to a cellular phone corresponding to the input cellular phone number.  
20 Accordingly, it is possible to prevent anyone from being accessed to another person's account without permission.

      Meanwhile, if anyone who is not the authentic cellular phone user accesses to the instant messenger system and inputs another person's cellular phone number to

generate a password, the password is transmitted to a corresponding cellular phone 300 in the same manner as step S150. At this time, the authentic cellular phone user may not be interested in the transmitted password or may forget the password. In such case, the instant messenger system 200 recognizes the authentic cellular phone user as a registered user. Accordingly, when this cellular phone user accesses to the instant messenger system 200a to use the instant messenger service, the one cannot log in the instant messenger system 200a if the one does not input the password previously transmitted to his/her cellular phone. For this reason, it is preferable that an "AUTOMATIC PASSWORD CHANGE" button is provided in the home page of the instant messenger system 200a, so that the user of the instant messenger system 200a can automatically change the password of the input cellular phone number by selecting the button. If the password is changed, the instant messenger system 200a transmits a new password to the cellular phone 300 of the user. Then, the user can log in the instant messenger system 200a using the new password.

If the authentic user is in login state in the instant messenger system 200a, the instant messenger system 200a downloads an instant messenger program to the user terminal 100. The user installs the instant messenger

program in his/her terminal 100 in step S160 and inputs a message using the instant messenger program to transmit the message to the instant messenger system 200a.

When a message has been received in the cellular  
5 phone user, a procedure of reporting message reception to the message receiving party through the instant messenger system 200a of Fig. 2 will be described in detail with reference to Fig. 5.

The instant messenger server 220a always checks  
10 message reception in step S200. If the message is received in the instant messenger server 220a, the instant messenger system 200a checks whether the message receiving party is a registered user in step S210. The registered user means a user who knows a preset password.

15 If the message is received, the instant messenger system 200a reports message reception to the user. To confirm the received message, it is preferable to allow the user to input a password registered in a corresponding account in view of security. However, a password is not  
20 registered in an account of an unregistered user. Accordingly, when a message is received in the account of the unregistered user for the first time, the instant messenger system 200a automatically generates a password so that the user can confirm the message of the corresponding

account only if the user knows the password. As a result of the step S210, if the message receiving party is an unregistered user, the instant messenger system 200a generates a password in step S230. The generated password  
5 is transmitted to the cellular phone 300 of the message receiving party together with message reception report in a short message in step S240.

At this time, an example of the short message is as follows.

10 "You have got a message. You can confirm the message in www.imessage.com, and your ID is your cellular phone number and your password is 3209".

Meanwhile, if the received message is within the number of characters (for example, 40 characters) that can  
15 be represented in a short message, in lieu of the aforementioned short message, the received message can directly be included in a short message. Also, even if the received message exceeds the number of characters that can be represented in a short message, some contents (for  
20 example, first 20 characters) of the message can be included in the short message.

By the aforementioned manner, the user can recognize that it has got a message. Afterwards, even if the whole message transmitted from the message transmitting party

does not appear in the short message, the message receiving party can confirm the whole text of the received message by accessing to the web site of the instant messenger system 200a using the user terminal 100 and then inputting his/her  
5 cellular phone number and password.

As described above, the message receiving party can receive the instant message transmitted thereto even though he/she separately does not register with the instant messenger system 200a.

10 In the step S210, if the message receiving party is a registered user, the steps of generating a password and transmitting it may be omitted because the message receiving party knows the password. However, even if the message receiving party is a registered user, the message  
15 receiving party cannot receive a message unless he/she is in login state in the instant messenger system 200a. Therefore, in the present invention, it is checked whether the message receiving party is in login state in the instant messenger system 200a in step S220.

20 If the message receiving party is in login state, the received message is directly transmitted to the message receiving party through the instant messenger server 220a in step S250. If the message receiving party is not in login state, it is impossible to transmit the message

through the instant messenger server 220a. Accordingly, a short message indicative of message reception is transmitted to the cellular phone 300 of the message receiving party in step S260. For example, the short  
5 message is as follows.

"You have got a message through imessage."

In this case, the whole received message or some of the received message can be transmitted in a short message, as described in the step S240.

10       Meanwhile, even if the message receiving party is a registered user, it is possible to transmit the registered user's password in a short message together with message reception for the sake of a case that the registered user forgets the password. In this case, the short message is as  
15 follows.

"You have got a message through imessage, and your password is 2097."

Since the instant messenger system 200a shown in Fig. 2 should be provided with instant messenger accounts of  
20 cellular phone users in advance, instant messenger accounts of cellular phone users who may do not use the instant messenger system 200a at all are assigned. This could lead to a waste of the system resource when the number of users who use the instant messenger system 200a among the

cellular phone users is not great.

Another instant messenger system 200b according to the second embodiment of the present invention will be described with reference to Fig. 6.

5 Referring to Fig. 6, the instant messenger system 200b using a cellular phone number as an instant messenger address includes a subscriber registration unit 210b, an instant messenger server 220b, a message storing unit 230b, and a message reception report unit 240b. In the same  
10 manner as the first embodiment of the present invention, for convenience of description, it is supposed that a cellular phone number is used as an instant messenger address. However, a phone number used in the present invention is not limited to the cellular phone number. That  
15 is, cable/radio phone numbers assigned to a user can be used as a phone number. Also, in the second embodiment of the present invention, it is supposed that accounts for cellular phone users who are not registered with the instant messenger system 200b have not been generated,  
20 unlike the first embodiment.

The subscriber registration unit 210b receives subscriber registration data, such as a user name, an address, a cellular phone number, and a password, from a user accessed to the instant messenger system through the



Internet. Then, the subscriber registration unit 210b stores the received subscriber registration data in a subscriber DB 212b to complete a registration procedure. Only the subscriber registration data of registered users  
5 are stored in the subscriber DB 212b.

The instant messenger server 220b receives a message from a message transmitting party in login state and stores it in the message storing unit 230b. Then, the instant messenger server 220b transmits the message stored in the  
10 message storing unit 230b to a message receiving party. At this time, if the message receiving party is not a registered user, the instant messenger server 220b dynamically generates an instant messenger account corresponding to a cellular phone number of the message  
15 receiving party. The instant messenger server 220b includes a login processor 222b, a message transceiver 224b, and a dynamic account generator 226b.

The login processor 222b receives a cellular phone number and a password from a user accessed to the instant  
20 messenger system 200b through the Internet 500 to process logging in. At this instance, if the user does not know the password, the login processor 222b transmits the password generated at random to the user using the cellular phone number input by the user and authenticates the user by

receiving the phone number and the transmitted password. If authentication of the user is completed successfully, the login processor 222b downloads the instant messenger program to the user terminal 100.

5       The instant messenger program downloaded to the user terminal 100 is linked with the message transceiver 224b to provide the user with an instant messenger service. That is, the message transceiver 224b is linked with the instant messenger program downloaded to the user terminal 100 and  
10 receives a message input by the user using the instant messenger program from the message transmitting party in login state. Also, the message transceiver 224b transmits the received message to the user terminal 100 of the message receiving party if the message receiving party is  
15 in login state.

For message transmitting parties or message receiving parties who are not registered with the subscriber registration unit 210b, the dynamic account generator 226b dynamically generates instant messenger accounts  
20 corresponding to cellular phone numbers of the message transmitting parties or the message receiving parties. Here, dynamically generating an instant messenger account is issuing an account corresponding to a cellular phone number of either a message receiving party for whom a message is

received or a user who is logging in but not registered with the instant messenger system instead of setting accounts for all usable cellular phone numbers in advance.

For a subscriber account issued by the subscriber  
5 registration unit 210b or an account generated dynamically by the dynamic account generator 226b, the message storing unit 230b stores a received message for each instant messenger account in the message DB 232b.

Since the message reception report unit 240b shown in  
10 Fig. 6 functions as the message reception report unit 240a shown in Fig. 2, its description will be omitted.

Meanwhile, since a procedure of transmitting a message using the instant messenger system 200b of Fig. 6 is essentially similar to the procedure of Fig. 3, its  
15 repeated description will be omitted.

In the instant messenger system 200b shown in Fig. 6, an account is not generated in a state that a user is not registered with the instant messenger system 200b. Accordingly, when the user who is not registered with the  
20 instant messenger system 200b desires to transmit a message using the instant messenger system 200b, an account is dynamically generated if the user is authenticated as an authentic cellular phone user. Such a transmitting party account dynamically generated in the message transmitting

step may be released after several days have elapsed, so that the resource of the instant messenger system 200b can be utilized more efficiently.

Furthermore, when a message has been received in the  
5 cellular phone user, a procedure of reporting message reception to the message receiving party through the instant messenger system 200b of Fig. 6 is similar to the procedure of Fig. 5. Accordingly, its repeated description will be omitted.

10 However, in the instant messenger system 200b of Fig. 6, if the message receiving party is not registered with the instant messenger system 200b as a result of the step S210, an instant messenger account corresponding to the cellular phone number of the message receiving party is  
15 dynamically generated. The message received in the step S200 and the password generated in the step S230 are stored in the dynamically generated account. Such a receiving party account dynamically generated in the message receiving step may be released after several days have  
20 elapsed, so that the resource of the instant messenger system 200b can be utilized more efficiently.

#### INDUSTRIAL APPLICABILITY

As aforementioned, the instant messenger system and

the method for transmitting an instant message have the following advantages.

Since cellular phone numbers of users are used as instant messenger addresses, the message transmitting party  
5 can transmit an instant message to the message receiving party if the one knows the other's cellular phone number. In addition, since an instant messenger account is automatically issued using the cellular phone number, every cellular phone user can use the instant messenger system  
10 even without registering with the instant messenger system. Moreover, an instant messenger account is assigned regardless of registration with the instant messenger system, and message reception is reported to the cellular phone of the message receiving party if a message is  
15 received in a corresponding account, thereby enhancing convenience in using instant messenger service.

Furthermore, since the instant messenger account is dynamically assigned only if a message is received in the message receiving party and the message transmitting party  
20 inputs a message, the resource of the system can be saved.

While the present invention has been described and illustrated herein with reference to the preferred embodiments thereof, it will be apparent to those skilled

in the art that various modifications and variations can be made therein without departing from the spirit and scope of the invention. Thus, it is intended that the present invention covers the modifications and variations of this  
5 invention that come within the scope of the appended claims and their equivalents.

WHAT IS CLAIMED IS:

1. An instant messenger system using a phone number as an instant messenger address, comprising:

5 a message storing unit for in advance setting instant messenger accounts having a phone number of each user as an instant messenger address for latent instant messenger service users and storing a message received for each instant messenger account;

10 an instant messenger server for receiving the message from a message transmitting party in login state to store the received message in the message storing unit and transmitting the message stored in the message storing unit to a message receiving party in login state; and

15 a message reception report unit for reporting message reception to a message receiving party who is not in login state, through a phone number of the message receiving party.

2. The instant messenger system of claim 1, wherein  
20 the message reception report unit generates a password at random for a message receiving party who is not registered with the instant messenger system, and transmits the password together with the data for reporting message reception to the message receiving party through a phone

number of the message receiving party.

3. The instant messenger system of claim 1, further comprising a subscriber registration unit for receiving  
5 subscriber registration data including a phone number and a password, from a user accessed to the instant messenger system through Internet, to implement a registration procedure.

10 4. The instant messenger system of claim 1, wherein the instant messenger server includes:

a login processor for processing logging in of the user accessed to the instant messenger system through the Internet; and

15 a message transceiver for receiving a message from the message transmitting party in login state and transmitting the received message to a message receiving party having an instant messenger address included in the received message if the message receiving party is in login  
20 state.

5. The instant messenger system of claim 4, wherein the login processor transmits the password generated at random to the user using the phone number input by the user



if the user does not know the password, and authenticates the user by receiving the phone number and the transmitted password.

- 5           6. An instant messenger system using a phone number as an instant messenger address, comprising:

          a message storing unit for storing a message received for each instant messenger account;

          an instant messenger server for receiving the message  
10 from a message transmitting party in login state,  
dynamically generating an instant messenger account  
corresponding to a phone number of a message receiving  
party to store the received message in the message storing  
unit, and transmitting the message stored in the message  
15 storing unit to a message receiving party in login state;  
and

          a message reception report unit for reporting message  
reception to a message receiving party who is not in login  
state, through the phone number of the message receiving  
20 party.

7. The instant messenger system of claim 6, wherein the message reception report unit generates a password at random for a message receiving party who is not registered

with the instant messenger system, and transmits the password together with the data for reporting message reception to the message receiving party through the phone number of the message receiving party.

5

8. The instant messenger system of claim 6, further comprising a subscriber registration unit for receiving subscriber registration data including a phone number and a password, from a user accessed to the instant messenger system through Internet, to implement a registration procedure.

9. The instant messenger system of claim 8, wherein the instant messenger server includes:

15 a login processor for processing logging in of the user accessed to the instant messenger system through the Internet;

a message transceiver for receiving a message from the message transmitting party in login state and transmitting the received message to a message receiving party having an instant messenger address included in the received message if the message receiving party is in login state; and

a dynamic account generator for dynamically

generating instant messenger accounts corresponding to cellular phone numbers of message transmitting parties or message receiving parties who are not registered with the instant messenger system.

5

10. The instant messenger system of claim 9, wherein the login processor transmits the password generated at random to the user using the phone number input by the user if the user does not know the password, and authenticates the user by receiving the phone number and the transmitted password.

11. A method for transmitting an instant message using a phone number as an instant messenger address, the method comprising the steps of:

- (a) generating instant messenger accounts having a phone number of each user as an instant messenger address for latent instant messenger service users;
- (b) receiving login data including a phone number and a password, from a message transmitting party to process logging in, and receiving a message from the message transmitting party;
- (c) generating a password at random for a message receiving party who is not registered with an instant

messenger system, and transmitting the password together with the data for reporting message reception to the message receiving party using a phone number of the message receiving party included in the received message; and

- 5 (d) receiving the login data including the phone number and the password, from the message receiving party to process logging in, and transmitting the received message to the message receiving party.

10 12. The method of claim 11, wherein the step (b) includes the steps of:

(b1) receiving the phone number from the message transmitting party;

(b2) generating a password at random and transmitting  
15 the generated password to the message transmitting party using the received phone number;

(b3) authenticating a user by receiving the transmitted password from the user; and

(b4) receiving the message from the user.

20

13. A method for transmitting an instant message using a phone number as an instant messenger address, the method comprising the steps of:

(a) receiving login data including a phone number and

a password, from a message transmitting party to process logging in, and receiving a message from the message transmitting party;

(b) dynamically generating an instant messenger  
5 account using a phone number of a message receiving party included in the received message as an instant messenger address;

(c) generating a password at random for a message  
10 receiving party who is not registered with an instant messenger system, and transmitting the password together with the data for reporting message reception to the message receiving party using the phone number of the message receiving party included in the received message; and

15 (d) receiving the login data including the phone number and the password, from the message receiving party to process logging in, and transmitting the received message to the message receiving party.

20 14. The method of claim 13, wherein the step (b) includes the steps of:

(b1) receiving the phone number from the message transmitting party;

(b2) generating a password at random and transmitting

the generated password to the message transmitting party using the received phone number;

(b3) authenticating a user by receiving the transmitted password from the user;

5 (b4) dynamically generating the instant messenger account using the phone number of the message transmitting party as the instant messenger address; and

(b5) receiving the message from the user.

FIG. 1

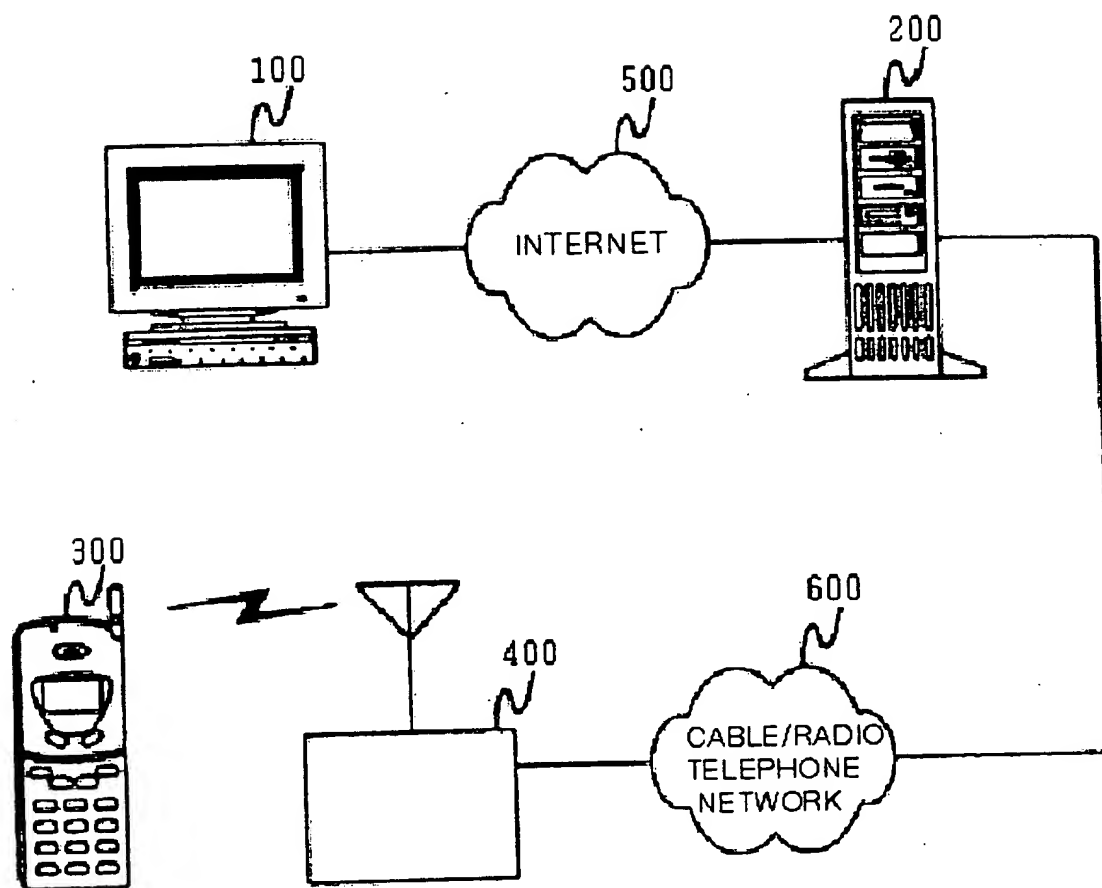


FIG. 2

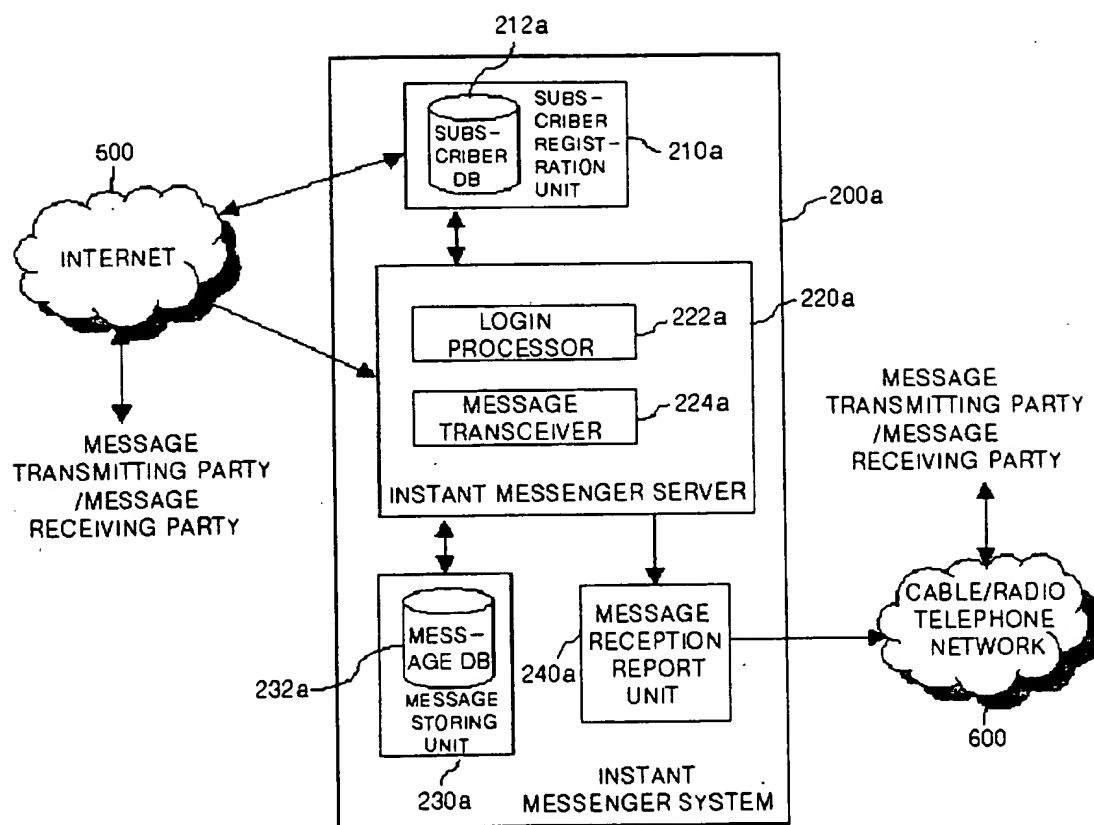




FIG. 3

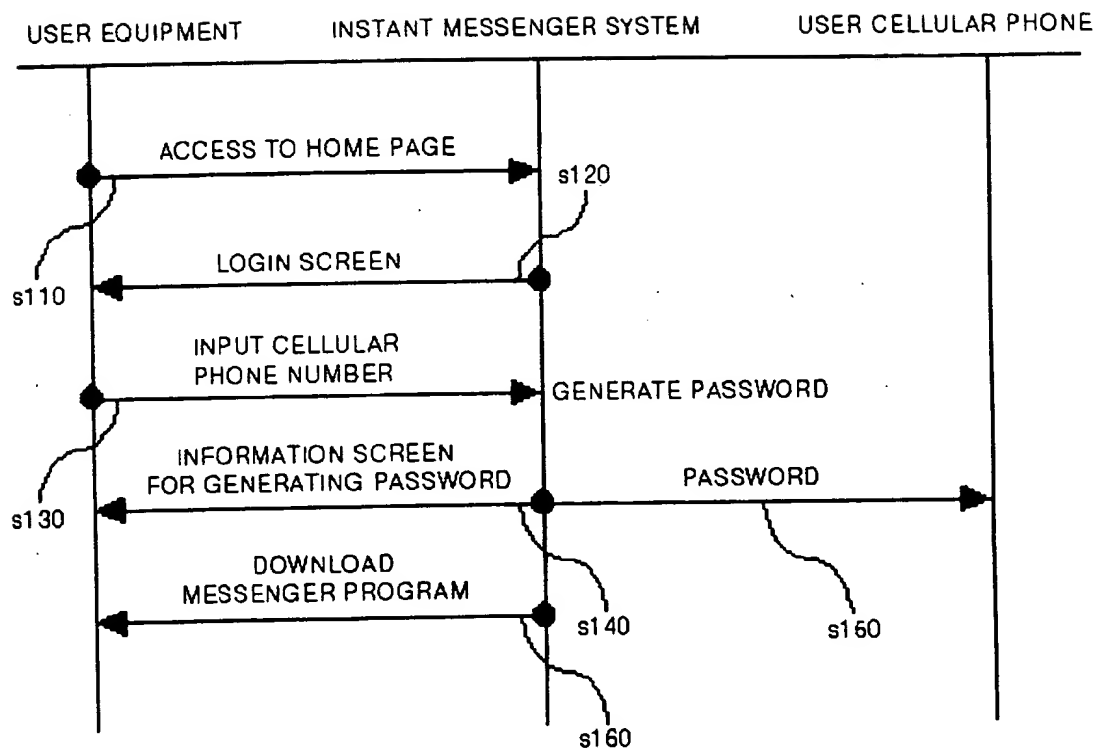


FIG. 4A

WELCOME TO E-MAIL SERVICE HOME  
PAGE USING CELLULAR PHONE NUMBER.

INPUT CELLULAR PHONE NUMBER AND  
PASSWORD FOR REGISTERED USER,  
AND INPUT CELLULAR PHONE NUMBER  
ONLY FOR NEW USER  
AND CLICK CONFIRMATION BUTTON

CELLULAR PHONE NUMBER :

PASSWORD:

FIG. 4B

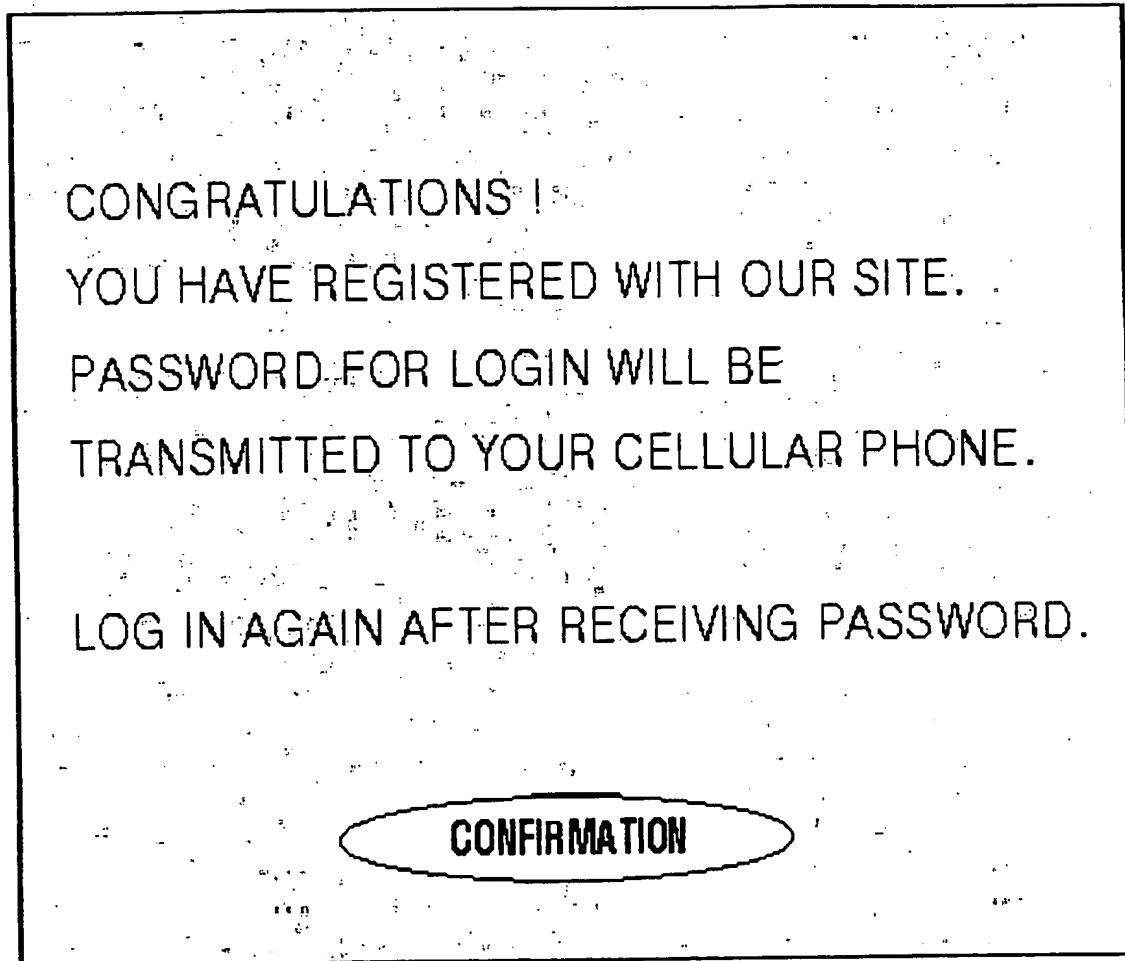


FIG. 5

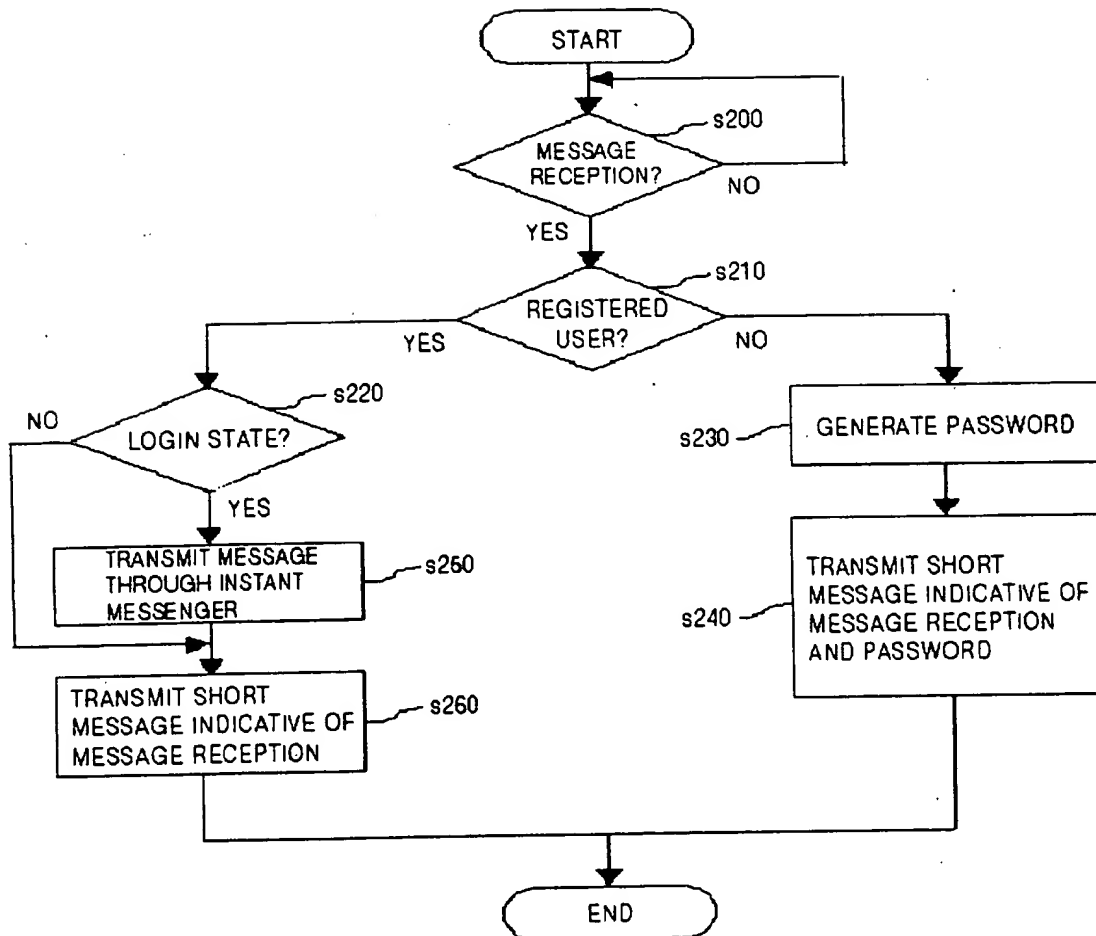
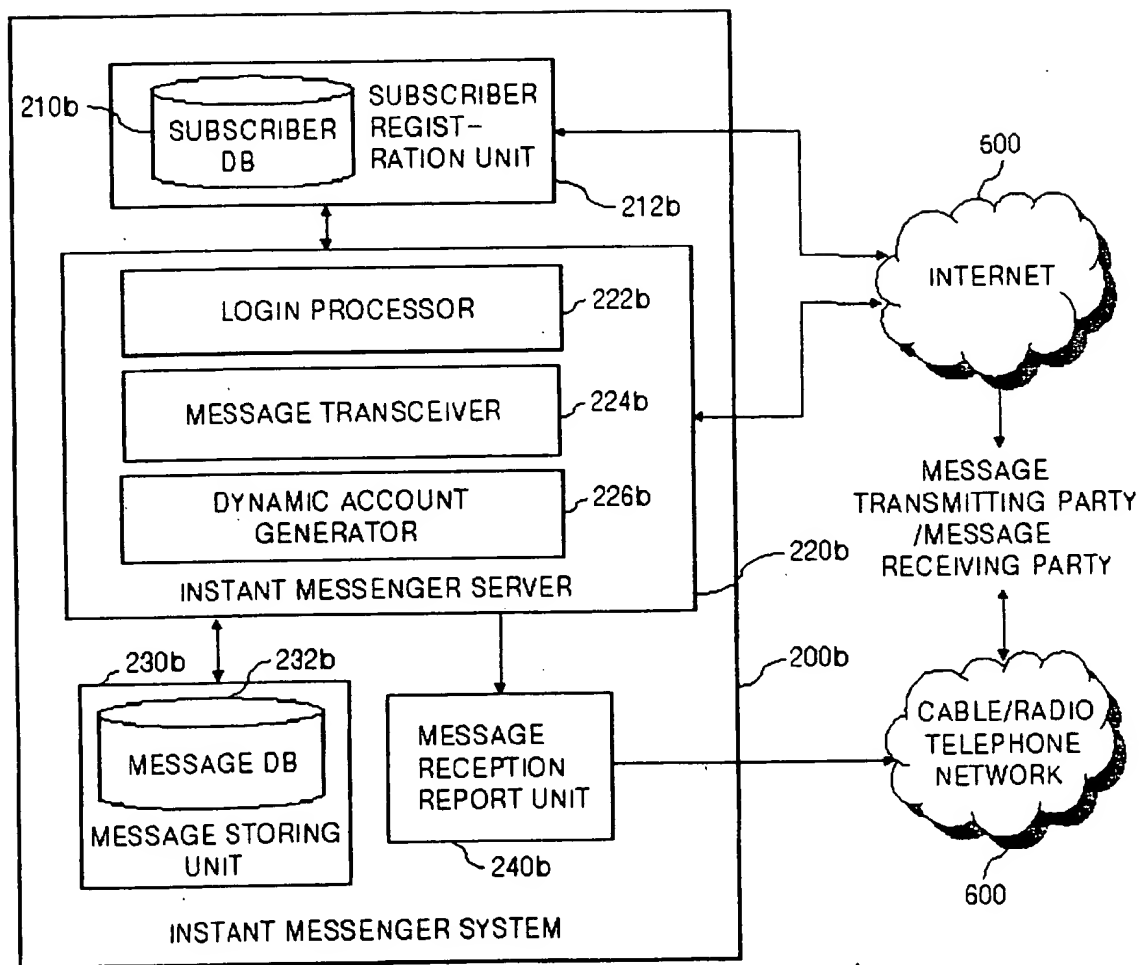


FIG. 6



# INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR00/01390

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7 H04Q 7/24, H04Q 7/38

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H04Q 7/24, H04Q 7/38, G06F 13/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

KOREAN PATENTS AND APPLICATIONS FOR INVENTIONS SINCE 1975

JAPANESE PATENT AND APPLICATIONS FOR INVENTIONS SINCE 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

NEW PATENT & UTILITY SEARCH SYSTEM

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 97/31498 A (TELECOM FINLAND OY) 28 AUGUST 1997	1-14
A	WO 97/27546 A (EX MACHINA, INC) 31 JULY 1997	1-14
A, P	KR 2000-63924 A (BEST ZONE, INC) 6 NOVEMBER 2000	1-14

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents:

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"E" earlier application or patent but published on or after the international filing date

"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

29 MARCH 2001 (29.03.2001)

Date of mailing of the international search report

29 MARCH 2001 (29.03.2001)

Name and mailing address of the ISA/KR

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

PCT/KR00/01390

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 97/27546 A	31.07.97	US 6021433 A EP 886826 A	01.02.00 30.12.98
WO 97/31498 A	28.08.97	JP 504915 T2 EP 951789 A	18.04.00 27.10.99